CLAIMS

What is claimed is:

Claim 1. A chemiluminescent light stick which is particularly susceptible to environmental degradation.

Claim 2. The chemiluminescent light stick of claim 1 wherein:

said light stick is disintegratable.

Claim 3. The chemiluminescent light stick of claim 1 wherein:

said light stick is disintegratable and partially biodegradable.

Claim 4. The chemiluminescent light stick of claim 1 wherein:

said light stick is disintegratable and biodegradable.

Claim 5. A chemiluminescent light producing device comprising:

a biodegradable containment device adapted to retain a chemiluminescent light producing chemical system; and

a chemiluminescent light producing chemical system retained therein.

Claim 6. The chemiluminescent light producing device in accordance with claim 5 wherein:

said biodegradable containment device is constructed from at least one polymeric material selected from the group consisting of Polyglycolic Acid, Polyactic Acid, Polycaprolactone, Polyhydroxybutyrate, Polyhydroxyvalerate, Polyvinyl Alcohol, Polyvinyl Acetate, and Polyenlketone.

Claim 7. The chemiluminescent light producing device in accordance with claim 5 wherein:

said chemiluminescent light producing chemical system retained therein is biodegradable.

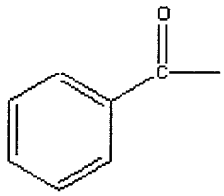
Claim 8. A process for selecting a biodegradable chemiluminescent light producing system including a chemical light oxalate system and a chemical light activator system comprising:

first selecting an oxalate solvent in accordance with the following criteria;

select a general set of solvent parameters required to impart particular biodegradable characteristics ;

select a class of solvents that meet said parameters;

specify members of said class of solvents that contain a carboxy-phenyl group:



group the members in order of water miscibility;

select the member of said group that will optimize the solubility of active chemical light ingredients ;

produce blends having different combinations of said active chemical light ingredients;

optimize said combination of solvents and active chemical light ingredients empirically as a function of differing absorption of different colors of light by different solvents;

secondly, select an activator solvent in accordance with the following criteria;

return to the class of solvents chosen above;

from this class of solvents, find all members that have a miscibility in water effective to stabilize a peroxide component of said chemical light activator system; and

blend activator components in said solvent having a miscibility effective to stabilize said peroxide component;

whereby a biodegradable chemiluminescent light producing system is defined.

Claim 9. A biodegradable chemiluminescent light producing system produced in accordance with the process of claim 8.